NOTES

MR. GEORGE BIDDELL AIRY, Astronomer Royal, has been selected by the Council of the Royal Society as a fit and proper person to be nominated as President of that Society on the occurrence of a vacancy, and Mr. Airy has declared his willingness to accept the proffered honour. As General Sir E. Sabine, the present president, has intimated his intention of resigning office at the next annual meeting, the election, which rests with the fellows, will come on at that time. We may congratulate the Society and English science generally on the wise choice which the Council have made. In scientific distinction, administrative ability, and honesty of purpose, the president-elect will prove no unworthy successor of the distinguished man of science who has now for so many years filled the office.

THE Royal Irish Academy has approved of the following allocations from the fund for promoting scientific researches:—G. J. Stoney, F.R.S., 50*l.*, "For Researches on the interrupted Spectra of Gases;" Prof. R. S. Ball, 6*l.* (additional), "For Experiments on Vortex Rings;" Prof. Henry Hennessy, F.R.S., 20*l.* (additional), "For Experiments on the friction of Fluids in contact with Solids;" Prof. Thiselton Dyer, 29*l.*, "For Researches on Vegetable Physiology;" Prof. Traquair, M.D., 25*l.*, "For Researches on the Crania of Osseous Fishes."

IT is stated that the appointment of Professor of Chemistry and Experimental Physics at the Indian Engineering College will be filled up by the transfer of Mr. Herbert M'Leod from the College of Chemistry. We consider this arrangement one which reflects great credit on those who are responsible for it. Mr. M'Leod has long been known not only as an accomplished chemist, but as one who has the rare gift of imparting his knowledge to others, and he has filled the position he held at the College of Chemistry for many years.

WE understand that the names of Dr. Cunningham and Mr. E. Ray Lankester have been selected from the candidates for the vacant Professorship of Natural History in the Queen's College, Belfast, and that it is probable that His Excellency the Lord-Lieutenant will appoint the first named gentleman as successor to Prof. Wyville Thomson.

WE are glad to learn that the "Zoological Research Association," concerning which we some weeks ago inserted a note, is now fully established.

WE regret to have to record the death on the 7th inst., at the age of sixty-eight, of Mr. Henry Denny, the curator of the Leeds Philosophical and Literary Society, an office he had held since 1825. It is to Mr. Denny's untiring zeal and assiduity that the Leeds Museum owes its high position among provincial institutions of a similar character. Unwearied energy, a great knowledge of science, and unfailing courtesy, were combined in him in a manner which will render it very difficult for the society to supply his place. In addition to the title which he held as Associate of the Linnean Society, Mr. Denny was a corresponding member of the Academy of Natural Sciences of Philadelphia and of the Syro-Egyptian Society of London; honorary member of the Philosophical Society of Dickinson College, Carlisle, Pennsylvania; of the Yorkshire Philosophical Society; the Blackmore Museum, Salisbury; and of the Norfolk and Norwich Museum.

THERE are few more zealous cultivators of Astronomy than an Indian gentleman, Mr. Nursing Row, a friend of the late Admiral Manners, who has built an observatory at his own expense at Vezagapatam. Although he has recently suffered a heavy loss of property from a cyclone sweeping over his estate, Mr. Nursing Row sent the munificent donations of 100*l.* to the Mansion House Fund for the relief of the distress in Paris, and 100*l.* to the fund for supplying seed and other aid to the French peasantry. He is also a most generous benefactor to the poor in his own neighbourhood.

WE learn from Paris that the report which reached the Academy of the death of M. Becquerel, the electrician, and which we copied last week, is incorrect. It was his son, M. Dumeril Becquerel, who died during the investment of Paris.

DR. PAGE, of Edinburgh, has commenced a course of thirteen lectures on Geology, descriptive and industrial, in the Mechanics' Institution, Glasgow. The lectures are largely attended by ladies and gentlemen. The study of the science in this large commercial city has received new impetus from the attractive and eloquent manner in which the lecturer presents it. Few, indeed, have the gift which Dr. Page possesses of making scientific study popular. The directors of the Institution are indebted to Dr. Page for enabling them to offer such valuable instruction at so small a charge.

THE Council of the Pharmaceutical Society offers a silver medal for the best herbarium collected in any part of the United Kingdom between May 1, 1871, and June 1, 1872. The collections are to consist of flowering plants and ferns, arranged according to the natural system of De Candolle, or any other natural method in common use. No candidate will be allowed to compete unless he be an associate, registered apprentice, or a student of the Society, or if his age exceeds twenty-one years.

WE have great pleasure in calling attention to the letters which will be found in our columns of correspondence respecting the International College at Isleworth, and the Crawfurd College at Maidenhead, where instruction in science appears to be given with highly creditable results.

AT the last meeting of the American Academy, a new form of solar eye-piece was exhibited by Prof. Pickering. A cube is made by cementing together two right-angled prisms of glass, which is substituted for the reflector in a diagonal eye-piece. By using a cementing liquid whose index of refraction is very nearly the same as that of the glass, almost all the light and heat pass directly through the cube, enfeebling the image so that it can be borne by the eye with impunity. We can thus cut off as much of the light as we please, and yet avoid all danger of cracking the glass by the heat, as frequently happens when a coloured glass is used to absorb it. Since the relative index of refraction of the inclined surface is very nearly unity, the angle of total polarisation is 45°, or the actual angle of incidence. Accordingly, the image will be perfectly polarised, and may be varied in intensity at will by a Nicol's prism. If we make the angle of incidence equal to 45° in Fresnel's formula, it takes the simple form that the reflected light $= \frac{\sin^2 v}{\cos^4 v}$ in which v is the deviation of the ray in passing from one medium to the other. In the present case if $n = 1{\cdot}01$, we find that the reflected beam equals ·00005, or only one twenty-thousandth part of the intensity of the incident ray, if $n = 1{\cdot}001$, the light is diminished to one two-millionth. On trying the experiment, it was found that the image formed was coloured, the tint changing with the angle of incidence. This curious effect is probably due to the fact that the dispersion of the balsam used for cementing the prisms is greater than that of the glass, and hence the relative index and quantity of light reflected differ for different colours. Apart from its practical application, this instrument possesses a scientific interest as furnishing a means of making large plane surfaces whose index is nearly unity, and thus enabling us to verify laws for whose proof we have heretofore been dependent on observations with gases only.

A SLIGHT shock of earthquake was felt on Friday night in the North of England. In and near Manchester the shock was

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felt soon after eleven o'clock. At Singleton Brook, near Manchester, the first shock was felt at precisely six minutes to eleven, A resident says that the windows of his house were violently shaken, as though a heavy vehicle was passing along the road. About five minutes past eleven the noise was again heard, accompanied, as before, by a tremulous motion. This time the effect was much more marked and continuous. At first the impression produced was merely that of trembling, which lasted for perhaps two seconds. This was succeeded by a slight pause of about half a second, and then the beds were distinctly felt to roll from side to side, exactly like the heaving of a ship at anchor, and with the same sharp and sudden check to the motion. The time occupied by the second shock was about four seconds. Immediately before the first shock a heaviness in the atmosphere had been noticed, as if there were a sudden change in the temperature. A similar effect was produced, according to concurrent testimony, in the neighbourhood of Bowdon. A decided shock was experienced at Leeds, and from accounts received from York, Wakefield, Doncaster, and other places, it seems to have been pretty generally felt over the southern part of Yorkshire. The accounts obtained from a variety of sources in Leeds show that it was felt in nearly every part of the borough. The statements vary slightly as to the exact time of the occurrence, but it must have taken place from eleven to a quarter-past. There were two motions, the first being very slight—so slight that no notice would probably have been taken, but for a more decided one which followed, and the result of which was that windows were violently shaken in their frames, and in some houses articles of crockery displaced. At Ulverston and Lancaster the shock was felt. Furniture in houses was thrown over, and people shaken and considerably alarmed. Two distinct shocks were experienced in the neighbourhood of Kendal; the first at about 6.20, the second at about 11.15. The first was not violent, and it does not appear to have been generally noticed, but the second was everywhere felt, and created great alarm. It lasted about ten or twelve seconds, and was felt at a distance of sixteen miles from Kendal, on the borders of Yorkshire. It appears to have taken a south-westerly direction. Several witnesses state that at the time of the occurrence they observed an unusual swell in the waters of Windermere lake. During the evening the atmosphere was very calm and foggy, like that preceding a thunderstorm. At Preston the shock was very keenly felt, and it created very much confusion and alarm. In our Correspondence columns will be found several other letters descriptive of the unusual phenomenon.

M. DECAISNE, director of the *Jardin des Plantes* at Paris, writing to the *Gardener's Chronicle*, thanks the English horticulturists for their offers of assistance, and asks especially for contributions of Pandanaceæ, Nepenthes, Cyclantheæ, Orchids, and Ferns. "But," he asks, "who will restore to us the Malpighiaceæ which our illustrious predecessor, Adrien de Jussieu, got together with so much pains? Who can give us back the old plants which were deposited here by such men as Aublet, Commerson, or Du Petit Thouars? For many years our stoves must bear the traces of these cruel losses. The effect," he adds, "of the shells on the monocotyledonous plants was very singular, and different in different cases. Thus the Pandanaceæ, Cyclantheæ, and Dracænas had their leaves and young stems completely cut off by the explosions of the shells, while the Bromeliaceæ were uninjured alike by the concussion and by the cold, which destroyed contiguous plants of other families."

WE learn from New Zealand that a fine display of Aurora was seen in that colony on the 24th and 25th of October last. It is not a little remarkable that while on the 24th Lyttleton was almost totally burnt down and the colonial papers attributed the blood-red appearance of the sky to the reflection of the fire, many persons in this country actually supposed the appearance of our display to arise from the burning of Paris.

ONE of the smartest shocks of earthquake known for some time in New Zealand was felt at Wellington at a few minutes past twelve on the night of the 1st of January last.

THE Marlborough College Natural History Society has issued its report for the half-year ending Christmas 1870, showing that it continues to prosper and to do good work. The most interesting papers printed at length are one by Mr. F. E. Hulme, "On Mosaic, Ancient, Mediæval, and Modern," containing a history of the art, with a very good illustration; and a prize essay by Mr. J. B. Fuller, "On the Identification of Birds' Eggs;" in which an empirical mode of classification and recognition is given, which will be useful to collectors. As an appendix is printed the commencement of a very careful second edition of a "Flora of Marlborough," by the Rev. T. A. Preston, which is carried on as far as the completion of Thalamifloræ.

THE Winchester and Hampshire Scientific and Literary Society has issued its first annual report, a promise, we hope, of good things to come. Although the first meeting was only held in November 1869, under the presidentship of the Rev. C. A. Johns, the society now numbers over a hundred members, and seems to have set itself to do useful work in local and general natural history and physical science. Thirteen papers were read before the society during its first session; and a list of plants collected during the year in the immediate neighbourhood of Winchester is promised with the next report. We would remind those who have to compile this list that grasses are flowering plants, although a sentence in the report before us would seem to imply the contrary. The rapid spread of these local natural history societies is a very healthy sign of the increase of the study of science in the country.

THE late numbers of the *Journal of the Scottish Meteorological Society*, of which two, published together, have just appeared, contain, as usual, valuable contributions from Dr. Buchan. In No. 27 he gives his second notice on the Rainfall of Scotland, treating of the central districts from the Firths of Forth and Clyde to the Grampians. The former notice referred to the southern counties. The paper shows that the precipitation in the upper valleys of the Forth and Tay is about 90 inches, or 20 inches more than at the wettest stations in the South. The maximum, 91·90 inches, was observed at Glengyle. It also appears that the amount does not depend on the level of the gauge nearly as much as on local conditions. At Leng, at the height of 325 feet, the amount is 66·37 inches, whereas on Ben Ledi, at the height of 1,800 feet, it is only 58·43 inches. The last number contains a most important paper on the Mean Temperature of these islands, based on the Registrar General's Reports, and on observations from a few foreign stations. The means are taken from the maximum and minimum readings, and in some cases are for thirteen years, in others for less; but all have been reduced to the probable thirteen-year means. Daily range has been disregarded. The paper is illustrated by twelve monthly and a general chart. The results have been carefully discussed by Mr. Buchan, and, whenever possible, with reference to sea temperature. The results for Ireland are of less value than those for Great Britain, owing to the paucity of observations. The paper is specially to be welcomed, as Dove's Tables give but little information for the United Kingdom. The numbers contain some other short papers and the usual tables.

WITH reference to the flowering of the hazel, the *Gardener's Chronicle* calls attention to the singular fact that male catkins often appear in January, which have completely withered away before the female flowers and a second crop of male catkins appears some weeks later, and pertinently asks, what can be the object of this first crop of catkins?

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